

FIG. 1

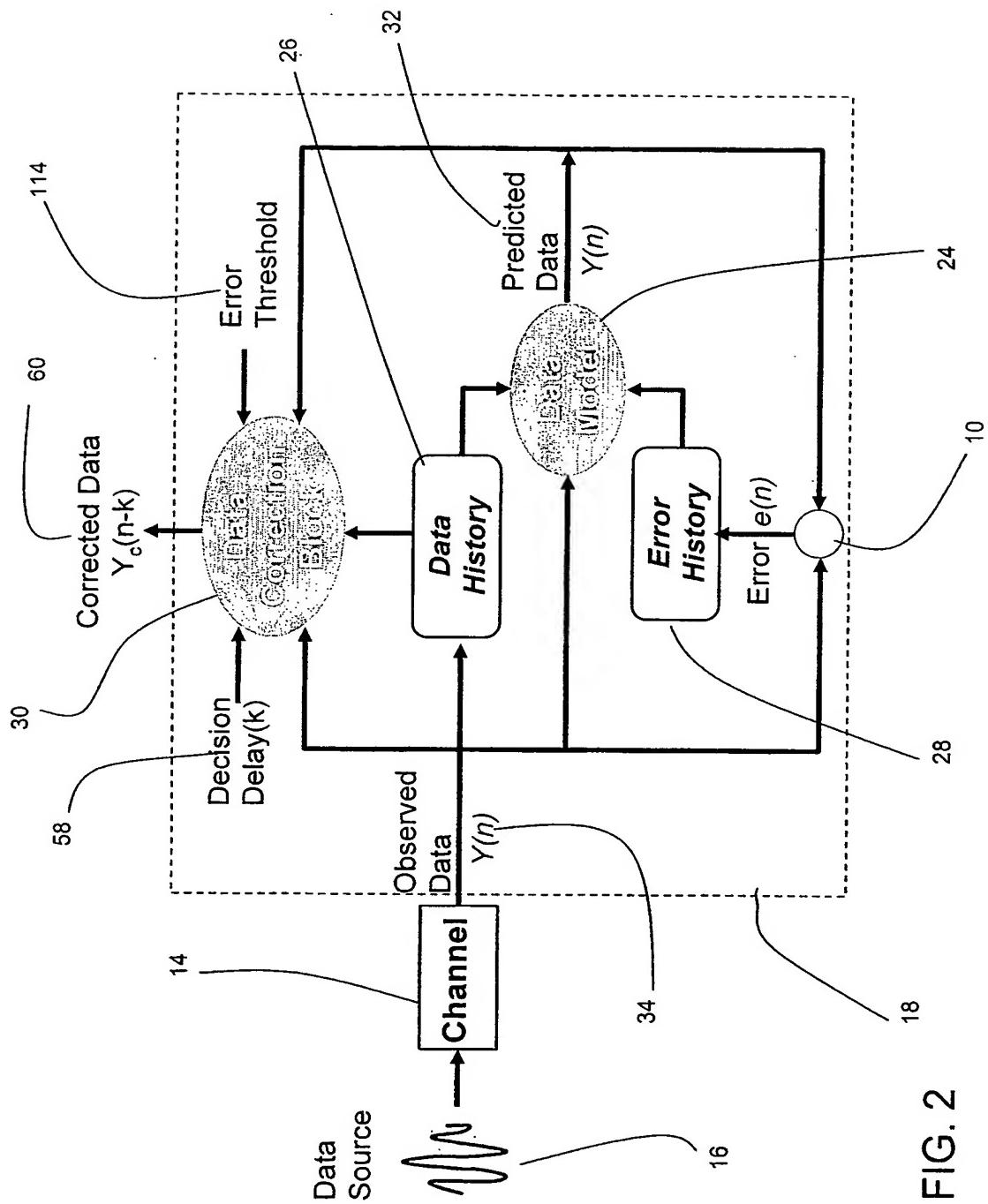


FIG. 2

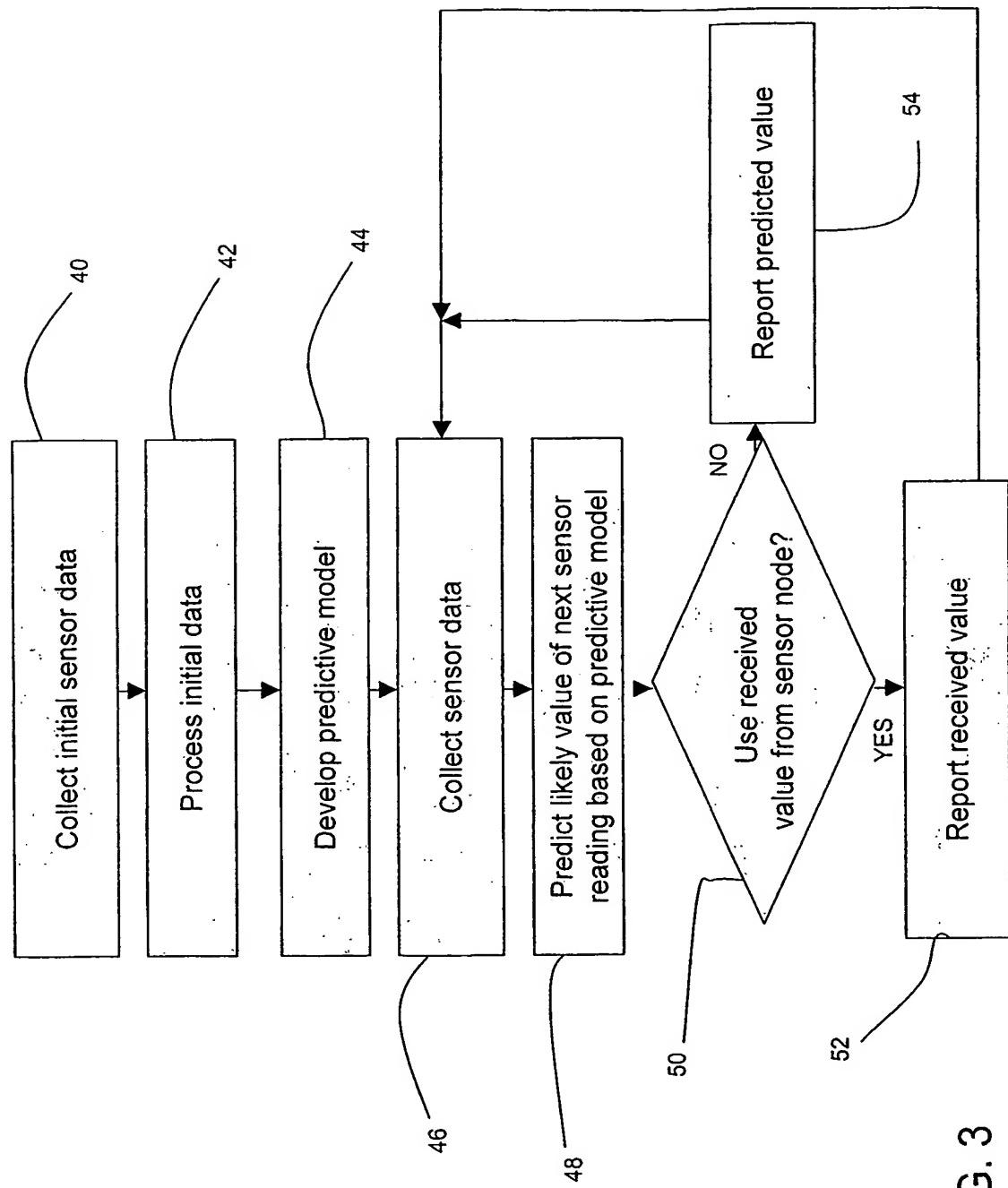


FIG. 3

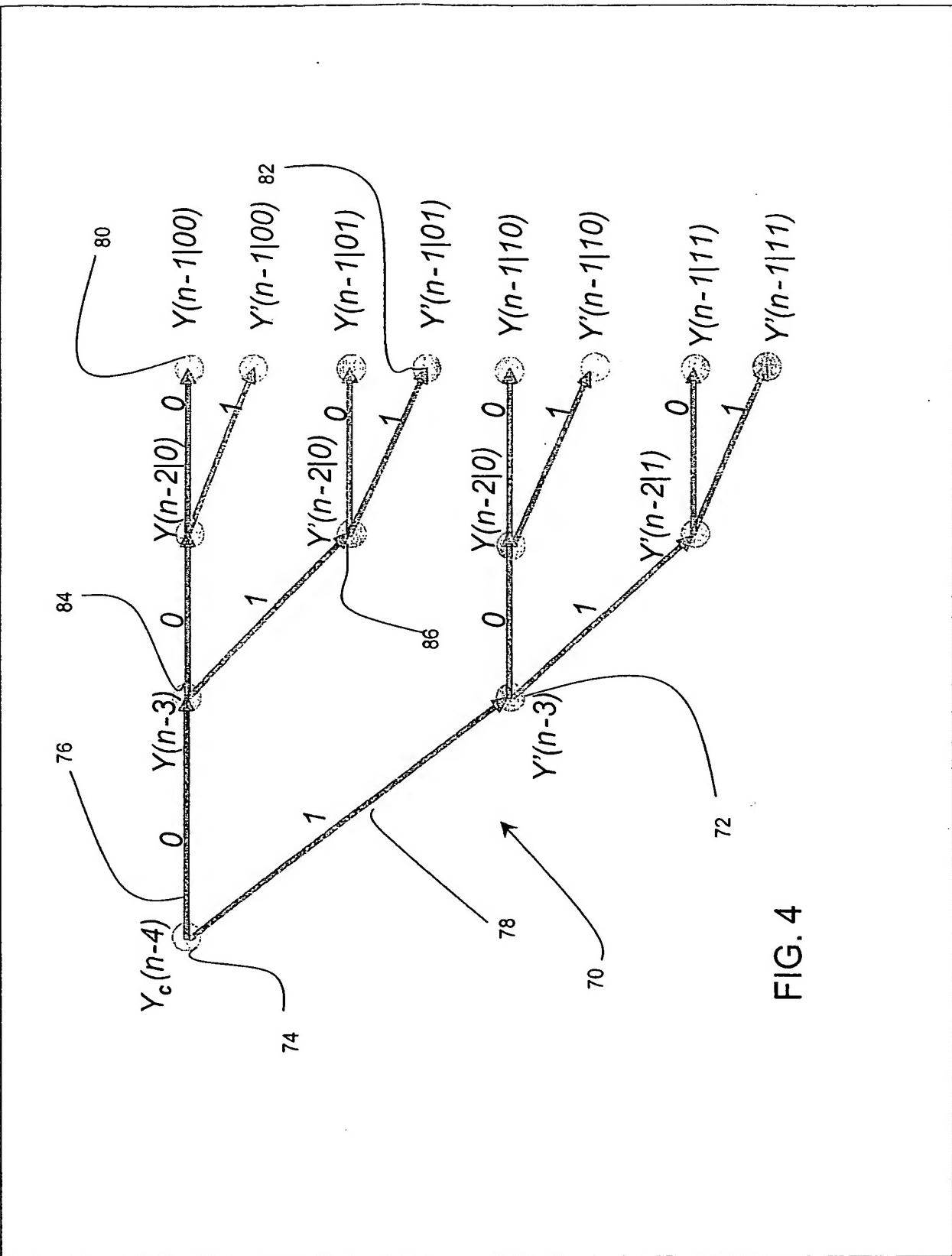


FIG. 4

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90   for each sample at time  $n$ ,
92     observe value  $Y(n)$ 
94     for each path  $i$  from root to leaf in PHT
96        $Y'(n, i)$  = Predict (model, data & error history for path  $i$ )
98        $E(n, i)$  =  $Y(n) - Y'(n, i)$ 
100       $\text{PathErr}(i) = \frac{1}{N_i} \sum_{j=n-K}^n E^2(j, i)$ 
          where  $N_i$  = No. of nodes in path  $i$  using predicted values
          end
          find  $i = i_{min}$  which minimizes  $\text{PathErr}(i)$ ;
           $\langle Y_C(n-K), E(n-K) \rangle = \text{updatePHT}(i_{min}, Y'(n, i), Y(n))$ 
        end

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updatePHT( $i, Y'(n', j), Y(n)$ ):
begin
  find  $s$  = level 1 node containing path  $i_{min}$ 
  [ out of  $Y(n-K)$  and  $Y'(n-K)$  ]
   $\langle y, e \rangle = Y$  and  $E$  values of node  $s$ 
  PHT  $\leftarrow$  subtree of PHT rooted in  $s$ 
  to each leaf node  $j$  of new PHT, add 1st child  $Y(n, j)$ ,
  and if  $|E(n, j)| > ETH$  add 2nd child  $Y(n, j)$ 
  return  $\langle y, e \rangle$ 
end

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FIG. 5